Parent's signature:

_____

Date:

_____

Anglo-Chinese School
(Primary)
(Founded 1886)

40

Mathematics

Name: _____ ( ) Class: P 6 ___ Date: _____

Topical Test 2: Ratio / Circles / Angles in Geometrical Figures

Section A - Multiple-Choice Questions: (3 Marks)

Questions 1 to 3 carry 1 mark each..

Write your options in the ( ) provided. The use of calculators is **NOT** allowed.

1) There are some red, yellow and blue buttons in a jar. The ratio of the number of red to the total number of blue and yellow buttons is 4 : 7. The ratio of the number of blue to the number of yellow buttons is 2 : 3. What is the ratio of the number of blue buttons to the number of red buttons?

(1) 1 : 2

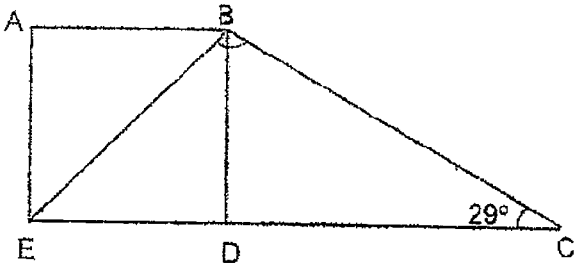
(2) 7 : 2

(3) 2 : 3

(4) 7 : 10

( )

2) In the figure below, ABDE is a square and CDE is a straight line.
$\angle BCD = 29°$.
Find $\angle CBE$.



(1) 61°

(2) 74°

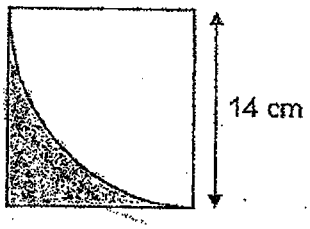
(3) 106°

(4) 135°

( )

3) The figure below shows a square and a quadrant.

Find the perimeter of the shaded part. (Take $\pi = \frac{22}{7}$)



(1) 22 cm

(2) 36 cm

(3) 39 cm

(4) 50 cm

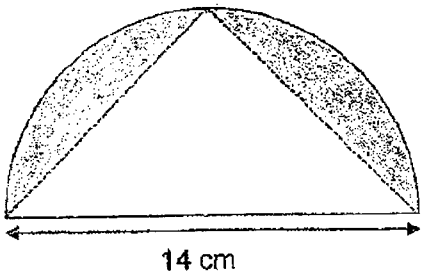
( )

Section B (3 x 1 mark) Open-ended Questions

Write your answer in the spaces provided. For questions which requires units, give your answer in the units stated. The use of calculators is **NOT** allowed.

4) The figure below is made up of a semicircle of diameter 14 cm and a triangle. Find the area of the shaded part.

(Take $\pi = \frac{22}{7}$)

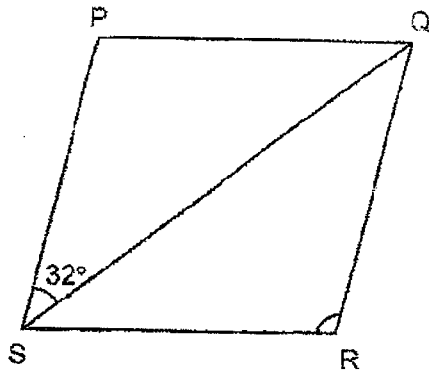


Ans: _____ cm^2

5) At a carnival, the ratio of the number of adults to the number of children was 3 : 5. The ratio of the number of men to the number of women was 2 : 3. What was the ratio of the number of men to the number of children? (Give your answer in the simplest form)

Ans: _____

6) The figure below is a rhombus PQRS and ∠PSQ = 32°. Find ∠QRS.

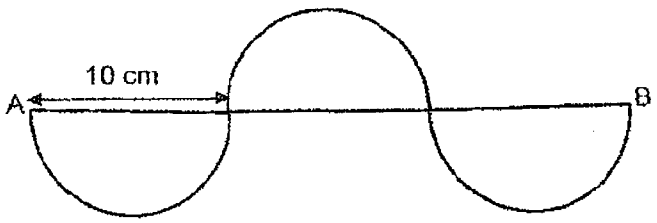


Ans: _____ °

Section C (34 marks)

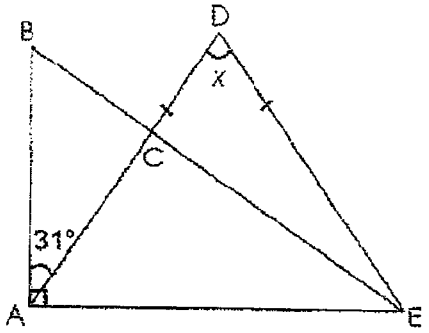
There are 11 questions in this section. All working must be shown clearly. Number of marks available is shown in brackets [ ] at the end of each question or part-question. The use of calculators is **allowed**.

7) The figure below shows 3 identical semicircles. AB is a straight line.
The diameter of each semicircle is 10 cm. Find the perimeter of the figure.
Express your answer in terms of π.



Ans: _____ cm [2]

8) The figure below is made up of a right-angled triangle ABE and an isosceles triangle ADE. Given that $\angle BAD = 31°$. Find $\angle x$.

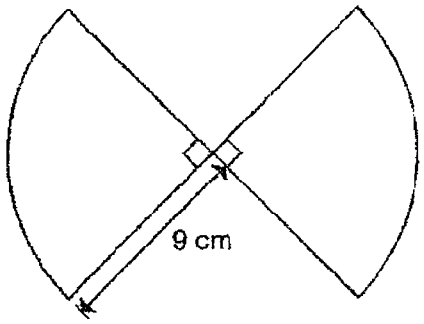


Ans: _____ °[2]

9) Geena, Harry and Ethan shared the cost of their father's birthday present in the ratio of 5 : 3 : 1. The present cost $180. How much more than Ethan did Geena pay for the present?

Ans: $_____ [2]

10) The figure below shows 2 identical quarter circles with the radius of 9 cm. Find the perimeter of the figure.
(Take π = 3.14)

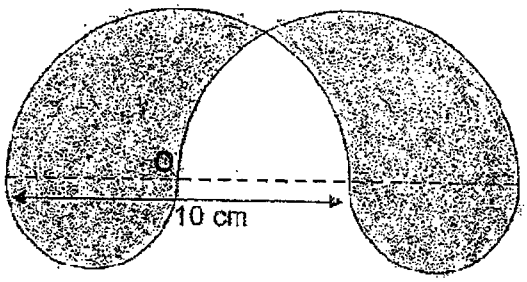


Ans: _____ cm [2]

11) David has a number of 10¢, 20¢ and 50¢ coins in the ratio 1 : 2 : 5. The total value of all the coins is $90. What is the total value of the 50¢ coins?

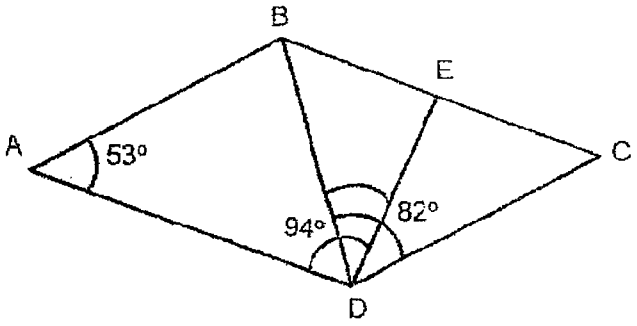
Ans: _____ [3]

12) The figure below is made up of 4 semicircles. O is the centre of the big semicircle of diameter 10 cm. Find the perimeter of the shaded part. (Take $\pi = 3.14$).



Ans: _____ [3]

13) In the figure below, ABCD is a parallelogram. $\angle BAD = 53°$, $\angle ADE = 94°$, $\angle BDC = 82°$. Find $\angle BDE$.



Ans: _____ [4]

14) The ratio of the number of kiwis to the number of pears in Basket A was 5 : 8. There were thrice as many kiwis as pears in Basket B. The fruit seller transferred $\frac{1}{4}$ of the pears from Basket A to Basket B. There were 308 fruits left in Basket A and the ratio of the number of kiwis to the number of pears in Basket B became 7 : 5.

(a) What was the ratio of the number of kiwis to the number of pears in Basket A in the end?

(b) Find the total number of fruits in Basket B in the end.

Ans: (a) _____ [1]

(b) _____ [3]

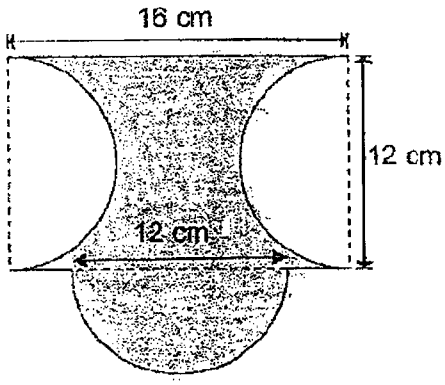
15) The figure is made up of a semicircle with diameter 12 cm and a rectangle measuring 12 cm by 16 cm. Two identical semicircles are cut out from the rectangle.

(a) Using calculator value of π, find the area of the shaded part.

Give your answer correct to 2 decimal places.

(b) Using calculator value of π, find the perimeter of the shaded part.

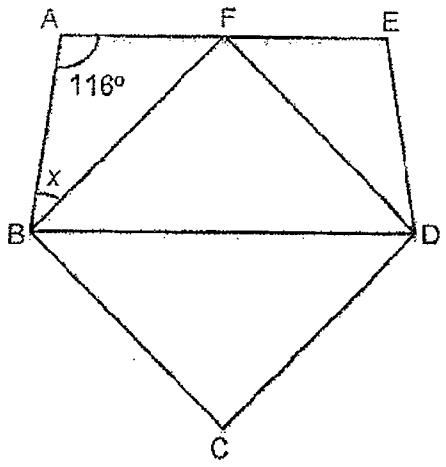
Give your answer correct to 2 decimal places.



Ans: (a) _____ [2]

(b) _____ [3]

16) ABDE is a trapezium and BCDF is a square. AE // BD. Find $\angle x$.

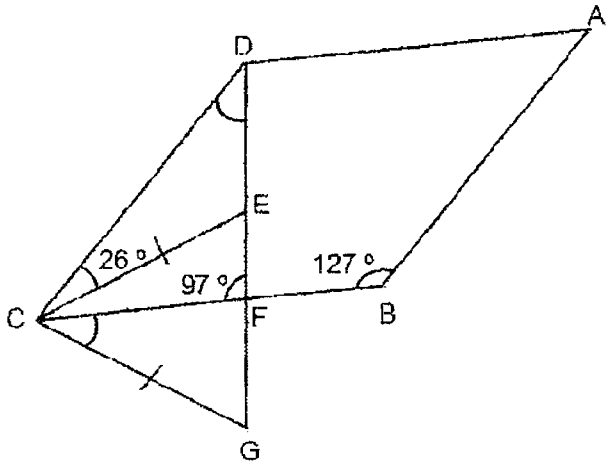


Ans: _____ [3]

17) In the figure below, ABCD is a parallelogram.
CE = CG and DFG is a straight line.
Given that ∠CFD = 97°, ∠DCE = 26° and ∠ABC = 127°

a) Find ∠CDG.

b) Find ∠GCB



Ans: (a) _____ [2]

(b) _____ [2]

End of Paper

YEAR : 2025
LEVEL : PRIMARY 6
SCHOOL : ANGLO-CHINESE SCHOOL (PRIMARY)
SUBJECT : MATHEMATICS
TERM : TOPICAL TEST 2

Q1	4	Q2	3	Q3	4

Q4

D = 14
R = 14 ÷ 2 = 7
$\frac{1}{2}$ x 14 x 7 = 49
Semi circle = $\frac{1}{2} \times \frac{22}{7} \times 7 \times 7 = 77$
77 – 49 = 28cm²

Q5

a : c
3 : 5

m : w
2 : 3

m : w
6 : 9

m : c
6 : 25

Q6

$\frac{1}{2}$ of rhombus = isosceles triangle
PQS + PSQ = 32 + 32 = 64
QRS = QPS
QRS = 180 – 64 = 116°

Q7

10 x 3= 30
10 ÷ 2 = 5
$\frac{1}{2} \times \pi \times 10 = 5\pi$
$5\pi \times 3 = 15\pi$
$15\pi + 30 = (15\pi + 30)$cm

Q8

DAE = 90 – 31 = 59
DAE = DEA = 59
180 – 59 – 59 = 62°

Q9

G : H : E
5u : 3u : 1u
Total $180
5u + 3u + 1u = 9u
9u = 180
1u = 20
5u – 1u = 4u
20 x 4 = $80

Q10

9 x 4 = 36
D = 9 x 2 = 18
$\frac{1}{4} \times 3.14 \times 18 = 14.13$
14.13 x 2 = 28.26
28.26 + 36 = 64.26cm

Q11

0.10 : 0.20 : 0.50
1 : 2 : 5
10¢ : 40¢ : 25¢
0.10 : 0.40 : 2.50
0.10 + 0.40 + 2.50 = 3
90 ÷ 3 = 30
30 x 2.5 = $75

Q12

$\frac{1}{2} \times 3.14 \times 5 = 7.85$
7.85 x 2 = 15.7
3.14 x 10 = 31.4
3.14 x 5 = 15.7
31.4 + 15.7 = 47.1cm

Q13

ADC = 180 – 53
= 127
CDE = 127 – 140 = 33
BDE = 82 – 33 = 49°

Q14

(a)

A : B	
K : P	K : P
5 : 8	3 : 1
8 − 2 = 6	7: 5
5 : 6	21 : 15

Ans : 5:6

(b) 5u + 6u = 11u

11u = 308

1u = 308 ÷ 11 = 28

2u = 28 x 2 = 56

56 ÷ 8 = 7

21u + 10u = 36u

36 x 7 = 252

Q15

(a) 12 ÷ 2 = 6

$\frac{1}{2} \times \pi \times 6 \times 6 = 18\pi$

16 x 12 = 192

$\frac{1}{2} \times \pi \times 6 \times 6 = 18\pi$

192 - 18π = 135.451

≈ 135.45cm²

$\frac{1}{2} \times \pi \times 12 = 6\pi$

6π x 2 = 12π

12π + 6π = 18π

16 + 4 = 20

20 + 18π = 76.548

≈ 76.55cm

Q16

FBD = 90 ÷ 2 = 45

AFB = (180 − 90) ÷ 2 = 45

180 − 45 − 116 = 19°

Q17

(a) BCD = 180 − 127 = 53

CDG = 180 − 97 − 53 = 30

(b) ECF = 53 − 26 = 27

CEF = 180 − 97 − 27

= 56

GCB = 180 − 56 − 56 − 27 = 41°

END